



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/694,009	10/24/2003	Robert Mazzei	2000-013-B	3719

7590 06/21/2005

Attn: AMSTA-AR-GCL  
U.S. Army TACOM-ARDEC  
M. Sachs / Building 3  
Picatinny Arsenal, NJ 07806-5000

EXAMINER

PARSLEY, DAVID J

ART UNIT	PAPER NUMBER
----------	--------------

3643

DATE MAILED: 06/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/694,009

Applicant(s)

MAZZEI ET AL.

Examiner

David J. Parsley

Art Unit

3643

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 19 August 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1,4,6-8 and 11-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,4,6-8 and 11-14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## Detailed Action

### *Amendment*

1. This office action is in response to applicant's amendment dated 8-19-04 and this action is final.

### *Claim Objections*

2. Claim 1 is objected to because of the following informalities: it is unclear to whether "closed" on line 12 should be - -close- -. Appropriate correction is required.

### *Claim Rejections - 35 USC § 103*

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 3-8 and 11-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 1,875,985 to Brandt in view of IT Patent No. 487021.

Referring to claim 1, Brandt discloses a projectile for use with a gun system, comprising a fuse – at 3, a projectile body – see figures 7-8, including an open end – proximate 3, and a closed rear

Art Unit: 3643

end – see figures 1-8, wherein the front end of the projectile is secured to the fuse – see figure 1, a boom assembly – at 37, secured to the closed end of the projectile body – see figures 7-8, the projectile body formed in a vent tube having a forward end that is secured to the fuse and a rearward end that abuts against the rear end of the projectile body – see figures 7-8, to form a smoke chamber, wherein the rear end of the projectile body includes at least one normally closed vent hole – at 34, in fluidic communication with the smoke chamber and at least one vent plug – at 35, that fits in the vent hole closing it, that is unplugged from the projectile body upon function of the fuse, to allow smoke that accumulates inside the smoke chamber to be released and that provides a signature for the projectile – see for example figures 1-8. Brandt does not disclose a center vent tube having a forward end that is secured to the fuse and a rearward end that abuts against the rear end of the projectile body, to form a smoke chamber and to provide added weight to control a center of gravity of the projectile. The Italian patent does disclose a center vent tube – proximate 4, having a forward end that is secured to the fuse – at 7-12, and a rearward end that abuts against the rear end of the projectile body – at 2, to form a smoke chamber and to provide added weight to control a center of gravity of the projectile – see the drawing figure. Therefore it would have been obvious to one of ordinary skill in the art to take the device of Brandt and add the center vent tube of the Italian patent, so as to allow for the device to be able to quickly direct the gas/smoke from the projectile body along a desired path. Brandt as modified by the Italian patent further discloses the at least one vent hole – at 34 includes a plurality of vent holes – see for example figures 7-8 of Brandt. Brandt as modified by the Italian patent further discloses a plurality of vent plugs – at 35 that fit in the vent holes – at 34 – see for example figures 7-8 of Brandt.

Referring to claim 4, Brandt as modified by the Italian patent further discloses the plurality of vent holes – at 34, include four equally spaced apart vent holes – see for example figures 7-8 of Brandt.

Referring to claim 6, Brandt as modified by the Italian patent further discloses the plurality of vent plugs – at 35, includes four vent plugs – see for example figures 7-8 of Brandt.

Referring to claim 7, Brandt as modified by the Italian patent further discloses the center vent tube – proximate 4 of the Italian patent is cylindrically shaped – see the drawing figure of the Italian patent.

Referring to claim 8, Brandt as modified by the Italian patent further discloses the center vent tube – proximate 4 of the Italian patent is open at both ends – see for example the drawing figure of the Italian patent.

Referring to claim 11, Brandt as modified by the Italian patent further discloses the center vent tube – proximate 4 of the Italian patent, is mounted along an axial length of the projectile body – at 2 – see the drawing figure of the Italian patent.

Referring to claim 12, Brandt as modified by the Italian patent further discloses the fuse – at 3 of Brandt, has an elongated stepped shape comprised of a forward end, an intermediate step and a narrower rearward step – see figure 1 of Brandt.

Referring to claim 13, Brandt as modified by the Italian patent further discloses the rearward step defines an edge with the intermediate step – see for example figure 1 of Brandt.

Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Brandt as modified by the Italian patent as applied to claim 13 above, and further in view of U.S. Patent No. 5,228,855 to Frost. Brandt as modified by the Italian patent does not disclose the center vent

Art Unit: 3643

tube has a forward edge such that when the projectile is assembled, the rearward step fits inside the center vent tube, with the forward edge abutting the edge defined between the rearward step and intermediate step, to secure the center vent tube to the fuse. Frost does disclose the center vent tube – at 12, 14, has a forward edge such that when the projectile is assembled, the rearward step – of item 20, fits inside the center vent tube, with the forward edge abutting the edge defined between the rearward step and intermediate step, to secure the center vent tube to the fuse – at 20 – see for example figure 1. Therefore it would have been obvious to one of ordinary skill in the art to take the device of Brandt as modified by the Italian patent and add the vent tube with rearward end of the fuse disposed inside the vent tube of Frost, so as to allow for the fuse to be securely held in place to the projectile body.

### *Response to Arguments*

4. Regarding claim 1, applicant argues that the Brandt reference US 1875985 teaches away from the center tube. However, as seen in column 2 lines 9-21, weight is added to this projectile to simulate the weight of a live round and thus adding a tube which would be additional weight to the interior of the projectile would enable the practice round to be made of a similar weight to that of a live round and thus it is deemed that the Brandt reference does not teach away from the use of a tube. Applicant further argues that a tube added to the Brandt reference would form a smoke chamber which is not in fluid communication with the vent holes. However, applicant's claim 1 does not specifically define the interior of the tube as being a smoke chamber. Claim 1 states that the center vent tube abuts against the rear end of the projectile body to form a smoke

Art Unit: 3643

chamber which does not specifically define the smoke chamber as being the interior of the tube and thus adding a tube to the Brandt reference would not cause the Brandt device to not function as stated in claim 1. Applicant further argues that there is no motivation to combine the Italian reference IT 487021 with the Brandt reference and that the main functionality of the center tube is not discussed. However, the main functionality does not have to be discussed. All that needs to be disclosed is motivation to combine the references even if that motivation is different than the functionality of applicant's invention and the motivation to combine the references is found in the knowledge generally available to one of ordinary skill in the art, with the motivation being shown above in paragraph 3 of this office action. Applicant further argues that the combination of the Brandt and Italian references would create a device that would not operate in the same manner as the claimed invention of claim 1. The combination of the Brandt and Italian references provides a tube as seen in the drawing figure of the Italian reference and further provides vent holes as seen at 34 in figure 7 of Brandt and smoke chambers at the interior of the body as seen in figure 7 of Brandt and at the interior of - 2 as seen in the drawing figure of the Italian reference and upon detonation of the device the gases formed in the smoke chamber exit via the vent holes as seen in figure 7 of Brandt. Thus the combination of the Brandt and the Italian references operates in the same or similar manner to that of the claimed invention in claim 1.

Further, applicant may receive favorable consideration if the following amendments were made to claim 1. Add in all of the limitations of the pending dependent claims. State that the projectile body is hollow. State that the vent tube is located entirely within the projectile body with the forward end of the vent tube abutting the inner wall of the projectile body near the forward end of the projectile body and the rear end of the vent tube abutting the inner wall of the

Art Unit: 3643

projectile body near the rear end of the projectile body, whereby an empty chamber is formed inside the hollow projectile body between the inner wall of the projectile body and the outer wall of the vent tube. Further, add a wall located inside the vent tube near the forward end of the vent tube, the wall entirely plugging the inner portion of the vent tube and disposed perpendicular to the longitudinal axis of the vent tube, the rearward step of the fuze extending into the vent tube and engaging the wall located inside the vent tube. Further, add the vent plugs are generally cylindrically shaped bodies with domed shape ends, where the cylindrically shaped bodies are disposed inside the vent holes with a portion extending into the hollow projectile body and the domed shaped ends extend entirely outside the projectile body and abut against the outer wall of the projectile body. If the following limitations were added to claim 1 favorable consideration may be granted upon a further search and consideration and with further consultation with the examiner's supervisor/primary examiner.

### *Conclusion*

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period



Art Unit: 3643

will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.


6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to David J. Parsley whose telephone number is (571) 272-6890. The examiner can normally be reached on 9hr compressed.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Poon can be reached on (571) 272-6891. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



David Parsley  
Patent Examiner  
Art Unit 3643



**PETER M. POON**  
**SUPERVISORY PATENT EXAMINER**

6/17/05